



Guide to developing a Clearing Permit Offset Proposal

- The following table is an example of how (as a minimum) to demonstrate your 'Offset Proposal' to DEC for assessment
- If you provide more information and attachments this will increase the ease of assessment
- If insufficient information is provided you may be requested to provide more detail
- For more information access the Native Vegetation Fact Sheet 11 'Direct and Contributing Offsets' or contact the Native Vegetation Conservation Branch on 9334 0333

This column provides tips on what to include under headings/principles etc (and is not required in your version)	This column is a suggested range of headings (Black writing) The blue writing is an example of how a proponent could demonstrate their offset proposal
Section 1: Contact Details	
	Date: 07/07/2007
Person responsible for compliance with permit & implementation of the Offset Proposal following approval.	Purpose permit holder contact person: Name Joe Bloggs CEO Shire of Somewhere Phone numbers 1234 5678 Email somewhere@somewhere.wa.gov.au
This person will have contributed technical information in this proposal.	Environmental specialist contact person: Name : Fred Smith, Environmental Analyst, Environmental Impact Assessment Pty Ltd Phone numbers 9876 5432 Email fredsmith@EIA.com.au
	Environmental specialist's qualifications or equivalent, and relevant experience: Bachelor of Science (Biology) University of Nowhere 15 years experience as a consultant conducting flora and vegetation surveys and environmental impact assessments with Environmental Impact Assessment Pty Ltd. All survey experience obtained within Western Australia.
Section 2: Information within your Clearing Permit	
This information is obtained from the first page of your clearing permit.	Purpose permit Number: CPS 000/1
	Permit holder: Shire of Somewhere
	Purpose of clearing: Road upgrades and gravel extraction
	Land on which clearing is to be done (including number of hectares): The clearing of up to 3.5 hectares is to occur within the Shire of Somewhere: <ul style="list-style-type: none"> • Nowhere Road (2.3 hectares) on north side of the road only; and • Fence Road (1.2 hectares) both sides of the road in most parts.

Section 3: Information within your Decision Report (Assessment of application against Clearing Principles)

This information is obtained from the 'Decision Report' that accompanied the Clearing Permit.

State the clearing principle/s your clearing is at, or may be at, variance to:

Clearing is at variance with clearing principle (e) "it is significant as a remnant of native vegetation in an area that has been extensively cleared; Beard vegetation type 946 which has only 17.9% of its original extent remaining.

Clearing may be at variance with clearing principle (a) "it comprises a high level of biological diversity". The Shire of Somewhere has been extensively cleared with some trees remaining comprising habitat suitable for nesting birds.

Detail the impact of the clearing: e.g. vegetation extent, fauna habitat, rare flora, wetlands/ watercourse etc (if needed discuss with Native Vegetation Conservation Branch).

Impact of the clearing on the environment:

Nowhere Road: approximately 2.3 hectares comprising 19 saplings and 4 mature Wandoo (*Eucalyptus wandoo*) some with hollows, and several York Gum (*Eucalyptus loxophleba*) and Jam (*Acacia acuminata*).

Fence Road: 1.2 hectares comprising the removal of 7 mature Marri (*Eucalyptus calophylla*) some with hollows, 5 mature Wandoo (*Eucalyptus wandoo*) and several Jam (*Acacia acuminata*), over native understorey in degraded to good condition. The areas that are degraded have extensive weed invasion.

Section 4: Developing Your Offset Proposal

Tips on what to consider before you determine appropriate sites to propose as offsets:

Have you:

- ☐ Selected offset site/s (with the help of your Environmental specialist) that are:
 - the same or similar in landform and soil type/s as found within the site to be cleared;
 - able to support the same or similar indigenous (pre-European) vegetation association/s as that present within the site to be cleared; and
 - likely to be successfully recreated as the habitats that are to be lost through clearing – note that if weeds or introduced plants occur in the site to be cleared you must identify what indigenous species you will be clearing and what indigenous species you will use in your offset planting.
- ☐ Noted that contaminated site/s classified under the *Contaminated Sites Act 2003* (past refuse disposal facilities, maintenance yards) are not considered to be suitable offset sites.
- ☐ Noted that the revegetation of gravel pits, in addition to those already required to be revegetated under this permit, may be suitable as offset sites.
- ☐ Ensured that all laws are complied with (e.g. *Native Title Act 1993*) and that necessary approvals are obtained (e.g. from landowner/s on which the offset will occur in the event that the subject land is not vested with the applicant, *Conservation and Land Management Act 1984*, *Rights in Water and Irrigation Act 1914*, etc).

You have previously stated the location and described the land to be cleared from the information in your permit and decision report (this can be in written or table format). Describe the vegetation at these sites.

Describe the vegetation within the site to be cleared:

Botanical name	Common name	Nowhere Road	Fence Road
<i>Acacia acuminata</i>	Jam	Y	Y
<i>Acacia pulchella</i>	Prickly Moses		Y
<i>Allocasuarina huegeliana</i>	Rock Sheoak	Y	
<i>Astroloma pallidum</i>	Kick Bush		Y
<i>Astroloma serratifolium</i>	Kondrung		Y
<i>Austrostipa elegantissima</i>	Feather Speargrass		Y
<i>Avena</i> sp. *	Wild Oats	Y	Y
<i>Dryandra</i> spp.			Y
<i>Ehrharta</i> sp. *	Veldt Grass	Y	Y
<i>Eucalyptus accedens</i>	Powderbark	Y	
<i>Eucalyptus calophylla</i>	Marri		Y
<i>Lepidosperma</i> spp.			Y
<i>Lomandra effusa</i>	Scented Matrush		Y
<i>Xanthorrhoea</i> sp.	Grass Tree	Y	Y
* denotes an introduced/weed plant species			

Detail the location, the amount of hectares and what it looks like (including soil type) prior to revegetation (structure; upper, middle, lower storey, density(%), ecological function and any other values).

Describe the proposed offset site prior to revegetation (location, area, species composition) and why it is suitable to offset the vegetation that will be lost due to the above clearing:

The offset (approximately 8 hectares in total) is to occur within the Shire of Somewhere (refer to aerial photograph attached). Offset sites were selected on the basis of their landscape position and soil type being similar to that within the area to be cleared:

- four gravel pits within Lot 123 on Plan 45678 and Lot 987 on Diagram 65432 (totalling approximately 6 hectares); this land was cleared in the 1950s for extraction of gravel for road construction, and is vested in the Shire of Somewhere;
- approximately 2 hectares of private property (being Lot 456 on Plan 98123) adjacent to a Nature Reserve, for which the owner of the proposed site has signed an agreement (see attached) to allow this work to be undertaken, and in addition the site will be fenced by the Shire and managed with advice from DEC's Land for Wildlife program; and
- in addition, nest boxes will be constructed and appropriately mounted in large trees located on the same side of the sealed surface and within 100 metres of the mature trees containing hollows that to be removed.

How will you achieve the offset? How many of what species will be planted per hectare? How does your proposal consider possible failure (e.g. drought, weeds, disease)?

Description of proposed process of achieving the offset and what you expect the offset will consist of when completed:

Prior to planting, the sites will be ripped and mounded using a dozer, and weed and pest control will be undertaken and continued as necessary to ensure the establishment of the revegetation until 2010. Planting will be done using a tractor with a tree planter. After twelve months the sites will be infill-planted with seed or seedling (where necessary) by hand, using a "Potti Putki" or similar tool. It is anticipated that over the next 10 years the areas will have a species composition and structure similar to that of the surrounding vegetation. Extra planting and/or seeding will occur where required to ensure successful revegetation.

The method of revegetation will provide for a minimum of 1500 stems per hectare, comprising of at least five species from the tables below.

Gravel Pits - species to be planted

Botanical name	Common name	Plant form
Acacia acuminata	Jam	Tree / shrub
Acacia pulchella	Prickly Moses	Shrub
Allocasuarina huegeliana	Rock Sheoak	Tree
Astroloma pallidum	Kick Bush	Shrub
Astroloma serratifolium	Kondrung	Shrub
Austrostipa elegantissima	Feather Speargrass	Sedge / grass
Borya nitida	Pincushions	Ground cover
Enneapogon sp.		Sedge / grass
Eucalyptus calophylla	Marri	Tree
Eucalyptus loxophleba	York Gum	Tree
Eucalyptus rudis	Flooded Gum	Tree
Eucalyptus wandoo	Wandoo	Tree
Gastrolobium crassifolium	Thickleaf Poison	Shrub
Hypolaena pubescens		
Lomandra effusa	Scented Matrush	Sedge / grass
Lomandra spp.		Sedge / grass
Xanthorrhoea sp.	Grass Tree	Tree / shrub

The seedlings will be grown from seed collected within the local area (i.e. within 20 kilometres of the revegetation site); most seed will be collected from the surrounding bushland. Seed will also be collected prior to clearing under the Shire's purpose permit. In accordance with current best practice, seed will be collected at appropriate times during 2007-08 and stored appropriately until May 2008 when it will be grown into tube stock by a local nursery with dieback-free accreditation.

	<p>Private Property – species to be planted</p> <table><tr><th>Botanical name</th><th>Common name</th><th>Plant form</th></tr><tr><td>Astroloma pallidum</td><td>Kick Bush</td><td>Shrub</td></tr><tr><td>Eucalyptus accedens</td><td>Powderbark</td><td>Tree</td></tr><tr><td>Eucalyptus astringens</td><td>Mallet</td><td>Tree</td></tr><tr><td>Leptospermum erubescens</td><td>Roadside Teatree</td><td>Shrub</td></tr><tr><td>Xanthorrhoea sp.</td><td>Grass Tree</td><td>Shrub</td></tr></table> <p>The seedlings will be grown from seed collected within the local area (i.e. within 20 kilometres of the revegetation site); if approved by DEC seed will be collected from the adjacent Nature Reserve.</p> <p>To achieve the target diversity and density, some quantities of seed will be sourced from ABC Seed Supply Pty Ltd (a commercial seed supplier) if they have seed sourced from the area. Where seed needs to be specifically collected for the project, this will be collected under supervision of the environmental specialist.</p>	Botanical name	Common name	Plant form	Astroloma pallidum	Kick Bush	Shrub	Eucalyptus accedens	Powderbark	Tree	Eucalyptus astringens	Mallet	Tree	Leptospermum erubescens	Roadside Teatree	Shrub	Xanthorrhoea sp.	Grass Tree	Shrub
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<p>Section 5: Verification that all Twelve Offset Principles have been Addressed</p>																			
<p>Direct offsets generally occur away from the area cleared and are designed to counterbalance the adverse environmental impact, with the aim of achieving no environmental difference (i.e. no net loss) (refer to Native Vegetation Fact Sheet 11 for more details).</p>	<p>1. Direct offsets should directly counterbalance the loss of the native vegetation.</p> <p>The revegetation of four gravel pits plus 2 hectares of private property (totalling 8 hectares) to Beard vegetation association 946 using the species listed in the tables above at a minimum of 1500 stems per hectare will directly offset the loss of 3.5 hectares of vegetation in predominantly degraded condition.</p>																		
<p>Contributing offsets may include protection of areas of native vegetation, removal of threatening processes, management of areas of native vegetation and developing education awareness programs (refer to Native Vegetation Fact Sheet 11 for more details).</p>	<p>2. Contributing offsets should complement and enhance the direct offset.</p> <p>The Shire of Somewhere will fence the 2 hectares of revegetation on private property to ensure long-term security from stock grazing and unwarranted access.</p> <p>Nest boxes will be constructed and appropriately mounted in large trees located on the same side of the sealed surface and within 100 metres of the mature trees containing hollows that to be removed. This will occur approximately four weeks prior to the removal of the trees.</p>																		
<p>Explain why the vegetation must be cleared, detailing how it was not possible to avoid, minimise or reduce environmental harm.</p>	<p>3. Offsets are implemented only once all avenues to avoid, minimise, rectify or reduce environmental impacts have been exhausted.</p> <p>The upgrading of Nowhere Road and Fence Road is a long-awaited and necessary project that has resulted from considerable community pressure to eliminate “black-spot” areas within the Shire of Somewhere. These roads have a non-restricted speed limit, and over past years at least two serious accidents have occurred as a result of impaired visibility (especially at night) due to vegetation close to the sealed surface.</p> <p>A balance between the safe functioning of roads as transport corridors, and the value of roadside vegetation for tourism and wildlife, is required. The Shire of Somewhere has consulted with the Roadside Conservation Committee and other stakeholders in preparing its upgrade design. The areas to be cleared are located predominantly in vegetation of degraded condition and located on one side of the sealed surface to ensure no disturbance to the continuity of vegetation on the opposite side of the sealed surface.</p>																		

<p>Describe the values that will be removed as a result of the clearing and how your offset will provide equivalent of better replacement for these values (e.g. nesting boxes, fencing the site, other habitat provided etc).</p>	<p>4. The environmental values, habitat, species, ecological community, physical area, ecosystem, landscape, and hydrology of the offset should be the same as, or better than, that of the area of native vegetation being offset.</p> <p>The 3.5 hectares to be cleared is located predominantly in vegetation of degraded condition, with approximately 10-20% in good condition along Fence Road. A spring survey undertaken by Environmental Impact Assessment Pty Ltd in 2006 did not identify any occurrences of Priority or Declared Rare flora within the area to be cleared.</p> <p>The removal of mature trees with nesting hollows will be mitigated through the relocation of any fauna in occupancy (possibility of Brushtail Possum, no evidence reported by Environmental Impact Assessment Pty Ltd during their 2006 survey of these hollows having been used by Threatened fauna Carnaby's Black-Cockatoo) by a suitably qualified fauna consultant to the nearby nesting boxes (contributing offset), or released into nearby bushland as deemed appropriate by DEC. Nesting boxes will provided at a ratio of 8 to each 5 hollows identified within the trees to be cleared. Revegetation of the offset sites will use wholly local species consistent with the expected composition of the vegetation to be re-created, and consistent with the original vegetation occurring within the offset sites.</p>
<p>Detail the size of the site of proposed clearing and why?</p>	<p>5. A ratio greater than 1:1 should be applied to the size of the area of native vegetation that is offset to compensate for the risk that the offset may fail.</p> <p>The 3.5 hectares to be cleared is to be offset by revegetation of four gravel pits plus 2 hectares of private property (totalling 8 hectares), representing an offset ratio greater than 1:1. The loss of 3.5 hectares of vegetation predominantly in degraded condition (with a small percentage in good condition) will be mitigated through the re-creation of 8 hectares of a similar vegetation composition as that to be cleared and with a greater density and diversity than that to be cleared. The installation of nest boxes will mitigate the loss of habitat trees with hollows.</p>
<p>Describe assessment process for your offset proposal. You may need to include an attachment describing best practice methodology and why you used these methods.</p>	<p>6. Offsets must entail a robust and consistent assessment process.</p> <p>Environmental Impact Assessment Pty Ltd undertook an inspection of the area under application in spring 2006. The methodology and results of the survey were provided in a report that was provided to the Department of Environment and Conservation as supporting information to the Shire of Somewhere's clearing application. Subsequently Environmental Impact Assessment Pty Ltd has identified a number of sites suitable as an offset, determined suitable by the nature of their landform, soils and the composition of surrounding bushland, and ongoing monitoring and management will ensure successful establishment of the re-created vegetation types.</p>
<p>Explain how your proposed offset will address the clearing principles that your permit may be or is at variance to (detailed in the Decision Report).</p>	<p>7. In determining an appropriate offset, consideration should be given to ecosystem function, rarity and type of ecological community, vegetation condition, habitat quality and area of native vegetation cleared.</p> <p>The Shire of Somewhere has less than 20% of its native vegetation remaining. This offset aims to re-create 8 hectares of native vegetation in a condition better than that which is to be cleared.</p>

Describe how the net gain in size, quality and quantity when the offset is completed.	<p>8. The offset should either result in no net loss of native vegetation, or lead to a net gain in native vegetation and improve the condition of the natural environment.</p> <p>This offset will result in a net gain of native vegetation in terms of both the spatial area to be revegetated and the density and diversity of the revegetation when compared with the area under application. Ongoing monitoring and management will ensure successful establishment of the re-created vegetation.</p>
Explain any other legislation you have satisfied (e.g. animal removal and relocation and seed collection).	<p>9. Offsets must satisfy all statutory requirements.</p> <p>Appropriate approvals and licenses have been obtained from the Department of Environment and Conservation in relation to the collection of seed and relocation of fauna. Approval has been sought regarding the collection of seed from the Nature Reserve adjacent to the 2 hectare offset site on private property.</p>
Describe how you will define, document and audit your offset.	<p>10. Offsets must be clearly defined, documented and audited.</p> <p>Reporting and auditing will be done in accordance with the requirements of Clearing Permit 000/1. Refer to 'Monitoring Commitments' and 'Management Commitments' below for details of the Shire of Somewhere's commitment to ensuring successful establishment of the re-created vegetation associations.</p>
Explain what management processes you will implement to ensure that there is an environmental benefit achieved for 10-30 years.	<p>11. Offset must a long term (10-30 year) benefit.</p> <p>The tenure of the land on which the four gravel pits occur is with the Shire of Somewhere, is fenced and has restricted access. The revegetation and conservation management of these gravel pits is in accordance with the current Town Planning Scheme.</p> <p>The location of 2 hectares on private property adjacent to a Nature Reserve contributes a number of functions, including a buffer between the reserve and adjacent agricultural land, and extending the area of habitat available to wildlife. The site will be fenced to ensure long-term security from stock grazing and unwarranted access, and will managed in accordance with advice from DEC's Land for Wildlife program.</p>
Describe how the environmental specialist will be involved in the design and at when the environmental specialist with assess and monitor the offset.	<p>12. An environmental specialist must be involved in the design, assessment and monitoring of offsets.</p> <p>Environmental Impact Assessment Pty Ltd has been employed to undertake surveys of the flora and fauna and general environment of the area under application, and to identify suitable offset sites.</p> <p>Environmental Impact Assessment Pty Ltd will be supervising the offset proposal including the seed collecting, planting and monitoring.</p>

Section 7: Commitments and consultation	
How will you monitor the success of the offset and over what period?	<p>Monitoring Commitment:</p> <p>The offset sites will be monitored twice annually until 2010, by way of photographic monitoring points established on the perimeter of the sites, and by way of walking through the sites and identifying the success in terms of density, species survival, and weed invasion. Failure of the revegetation will be determined by calculating the density of surviving seedlings to be less than 1200 stems per hectare (allowing for up to 20% loss). Nest boxes will be monitored for signs of occupancy until 2010.</p> <p>An annual report will be forwarded to the Department of Environment and Conservation in accordance with CPS 000/1 reporting condition.</p>
What ongoing management activities will be undertaken?	<p>Management Commitment:</p> <p>Following monitoring twice annually until 2010, management of the sites and remedial actions will be undertaken where required. This will include management of any weeds found to be establishing within the sites, rabbit control if necessary, and manual infill planting where seedlings have not succeeded, to ensure successful establishment of revegetation to the target density and diversity (see 'Offset Description' above).</p>
Include relevant stakeholders, e.g. local environment, catchment, and flora / fauna groups (include contact details).	<p>Agencies consulted and submissions received:</p> <p>The following stakeholders have been consulted with regards to this proposal:</p> <ul style="list-style-type: none"> • Roadside Conservation Committee (RCC); • private landholders (for revegetation on private property); • the local community / LCDC; and • Department of Environment and Conservation (DEC).
Section 8: Supporting information (appendices)	
	<ul style="list-style-type: none"> • Locality plan / aerial photograph/s indicating the offset site and north, legend and scale (one close up A4 page for each site) • Species list for offset • Dominant species list for area of clearing (local to and similar soil and topography)

Additional Information and References

Determining vegetation condition

Bush Forever Volume 1¹ defines vegetation condition:

“Condition is a rating given to bushland to categorise disturbance related to human activities. This rating refers to the degree of change in the structure, density and species present in the bushland in relation to undisturbed bushland of the same type. Different people have used a series of scales of disturbance. Condition ratings used commonly in the Perth Metropolitan Region are described in Volume 2 (Connell 1995, Government of WA 1995, Keighery 1994).”

Condition Scale (Extract from Table 12 on page 48 of Bush Forever Volume 2 from Keighery B.J. (1994) ²)	
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species.
Very Good	Vegetation structure altered, obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
Completely Degraded	The structure of the vegetation is no longer intact and the areas is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora composing weed or crop species with isolated native trees or shrubs.

¹ *Bush Forever Final Report* (December 2000), Western Australian Planning Commission.

² Keighery, B.J. (1994) *Bushland Plant Survey. A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc), Nedlands, Western Australia.

Useful References

- Baxter, A., and Bicknell, D. (1996). *Toolibin Catchment Revegetation Manual*. Department of Agriculture Western Australia.
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- Department of Agriculture and Food (WA) 'FarmNotes' series
- FarmNote 37/98: Site preparation for successful revegetation for agricultural areas with less than 600 mm rainfall
 - FarmNote 47/98: Weed control for successful revegetation for agricultural regions with less than 600 mm rainfall